STATEMENT OF PROJECT OBJECTIVES

City of Arlington, TX
City of Arlington, TX Energy Efficiency and Conservation Block Grant

A. PROJECT OBJECTIVES

The purpose of this award is to implement the Recipient's Energy Efficiency & Conservation Strategy (EEC&S) in order to reduce fossil fuel emissions; reduce total energy use of the eligible entities; and improve energy efficiency in the building sector, the transportation sector, and other appropriate sectors, along with creating jobs.

B. PROJECT SCOPE

The scope for this award is the implementation of the EEC&S and all supporting documentation necessary for the proposed activities (Attached).

C. PROJECT MANAGEMENT AND REPORTING

Reports and deliverables will be provided in accordance with the Federal Assistance Reporting Checklist.

EECBG Activity Worksheet

Grantee: City of Arlington Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: Energy Efficiency Conservation Action Plan

Activity: 2. Technical Consultant Services If Other:

Sector: All Sectors If Other:

Proposed Number of Jobs Created: 4.00 Proposed Number of Jobs Retained: 1.00

Proposed Energy Saved and/or Renewable Energy Generated: 8,702,417 kWh

Proposed GHG Emissions Reduced (CO2 Equivalents): 4,503.000

Proposed Funds Leveraged: $20,000.00

Proposed EECBG Budget: 311,795.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: Pamela Last Name: Rambo-Estill Email: pamela.rambo-estill@arlingtontx.gov

Metric Activity: Technical Assistance If Other:

Project Summary: *(limit summary to space provided)*

The City of Arlington will retain one full time employee over a three year period to develop and begin implementation of a sustainability action plan for the municipal organization and community, identifying and recommending the appropriate municipal emission reduction goal (currently targeting 15%) and establishing a citywide Energy Efficiency Conservation Plan. The plan will continue the work started when the City of Arlington completed a 2005 baseline emissions inventory in 2008.

The Energy Efficiency Conservation Action Plan will be a road map for of the activities (policies, programs and projects) the City of Arlington, as well as its citizens and businesses will undertake to meet a GHG reduction target and identify how Arlington will conserve energy, fuel and other resources while reducing emissions and insuring that future actions, policies, programs and activities influenced by local government are carefully considered from an energy efficiency framework. As a participating member of the ICLEI Cities for Climate Protection Campaign, Arlington would likely establish a reduction goal of 15% or greater over a 10-15 year period from the 2005 emission inventory benchmark.

CDM, the same consultant used to establish the 2005 baseline emissions inventory- Arlington's Carbon Footprint, for both the municipal organization and the community, would be contracted to assist City staff and selected community groups and/or organizations in completing all the various tasks to develop and begin implementation of the action plan.

DOE desired outcomes from this activity include:
-accelerated deployment of market-ready distributed renewable energy technologies;
-improved air quality and related environmental and health indicators associated with the reduction of fossil-fuel emissions;
-increased energy-efficiency, reduced energy consumption and reduced energy cost through efficiency improvements in the building, transportation and other appropriate sectors;
-leverage the resources of federal, state, and local governments, utilities and utility regulators, private-sector and non-profit organizations to maximize the resulting energy, economic and environmental benefits
-improved coordination of energy-related policies and programs across jurisdictional levels of governance and with other local- and community-level programs in order to maximize the impacts of this program on long term local priorities.

Proposed number of jobs created, energy savings and emissions reductions reported on this sheet were developed using the DOE EECBG Estimated Expected Benefits Calculator.

*If you are proposing more than one activity, save this file as many times as needed with successive page numbers. For example: "OH-CITY-Columbus-Project Activity **page 1**.pdf," "OH-CITY-Columbus-Project Activity **page 2**.pdf," and continue as needed.*

REVISED

EECBG Activity Worksheet

Grantee: City of Arlington Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: City Hall Public Space (1st Floor) EE Project

Activity: 5. Energy Efficiency Retrofits If Other:

Sector: Public If Other:

Proposed Number of Jobs Created: 13.00 Proposed Number of Jobs Retained: 0.00

Proposed Energy Saved and/or Renewable Energy Generated: 2296231 kWh

Proposed GHG Emissions Reduced (CO2 Equivalents): 1,188.000

Proposed Funds Leveraged: $0.00

Proposed EECBG Budget: 1,150,000.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: Butch Last Name: Bonine Email: butch.bonine@arlingtontx.gov

Metric Activity: Building Retrofits If Other:

Project Summary: *(limit summary to space provided)*

This project is still in design phase so the exact magnitude of work, such as amount of duct work to be replaced and specific new system installation is pending while the City works with outside experts to determine the most effective and efficient upgrade solutions. The existing chamber is 4000 sq ft.

Upgrades may include replacement of existing heating, ventilation and air conditioning (HVAC) systems in the existing City Hall Council Chambers. The chamber is not individually metered from the remainder of the City Hall building, so the energy use of the existing system can not be specifically determined at this time. The existing chill water system is 30 years old, and has deteriorated duct-work and a return air duct system that is located in the crawl space under the first floor area. The return air duct-work has joints in this system that have failed and allow air from the crawl space to enter the return air system. The temperature in the Council Chamber is being kept at 68degrees 24 hours a day to reduce humidity created from exposure from the crawl space area. The crawl space area under the Council Chambers is not ventilated. The existing air handler in this space will be replaced with an energy efficient unit, the specifics of which are not yet determined. In addition, the supply and return air duct-work could be replaced with new sealed and insulated duct-work. Modifications will be required to replace the duct-work that is in the crawl space, and within furred out walls and ceiling areas. New furred out walls and furred down ceilings could be installed as part of the project to conceal the mechanical systems that are being replaced. A new make up air and ventilation system could be added to ventilate the crawl space, in combination with area ways at the east and west sides of the building.

DOE desired outcomes from this project include:

-New jobs and increased productivity to spur economic growth and community development
-improved air quality and related environmental and health indicators associated with the reduction of fossil fuel emissions
-Increased energy-efficiency, reduced energy consumption, and reduced energy cost through efficiency improvements in existing buildings and facilities

Proposed number of jobs created, energy savings and emissions reductions reported on this sheet were developed using the DOE EECBG Estimated Expected Benefits Calculator.

*If you are proposing more than one activity, save this file as many times as needed with successive page numbers. For example: "OH-CITY-Columbus-Project Activity **page 1**.pdf," "OH-CITY-Columbus-Project Activity **page 2**.pdf," and continue as needed.*

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EECBG Activity Worksheet

Grantee: City of Arlington Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: Convention Center LED Lighting Upgrade

Activity: 5. Energy Efficiency Retrofits If Other:

Sector: Public If Other:

Proposed Number of Jobs Created: 1.00 Proposed Number of Jobs Retained: 0.00

Proposed Energy Saved and/or Renewable Energy Generated: 97,614 kWh

Proposed GHG Emissions Reduced (CO2 Equivalents): 51.000

Proposed Funds Leveraged: $0.00

Proposed EECBG Budget: 48,888.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: David Last Name: Bevans Email: david.bevans@rlingtontx.gov

Metric Activity: Building Retrofits If Other:

Project Summary: *(limit summary to space provided)*

Replace current incandescent lighting with Light Emitting Diode lights (LED) in all 12 meeting rooms and Grand Hall (30,000sf ballroom).

Meeting Room Bulbs Replaced: 465
Grand Hall Bulbs Replaces: 156

Fiscal and environmental savings will occur due to the longer operating life of the LED lights vs. incandescents. The LED lights have an estimated operating life of 50,000 hours and incandescents have an operating life of 2500 and 1000 hours. 2 types of LED lights will have an ROI in under 14 months while the the 3rd type of LED will reach an ROI under 19 months.

Given the significantly lower wattage used in the LED lights we estimate decreasing the amount of carbon output by approximately 174 tons of CO 2 / year or 1500 tons over the life of the LED lights.

DOE desired outcomes from this project include:

-New jobs and increased productivity to spur economic growth and community development
-improved air quality and related environmental and health indicators associated with the reduction of fossil fuel emissions
-Increased energy-efficiency, reduced energy consumption, and reduced energy cost through efficiency improvements in existing buildings and facilities

Proposed number of jobs created, energy savings and emissions reductions reported on this sheet were developed using the DOE EECBG Estimated Expected Benefits Calculator.

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RQ1590

EECBG Activity Worksheet

Grantee: City of Arlington Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: Anti-Idling Vehicle Emission Reduction

Activity: 7. Transportation If Other:

Sector: Transportation If Other:

Proposed Number of Jobs Created: 1.00 Proposed Number of Jobs Retained: 0.00

Proposed Energy Saved and/or Renewable Energy Generated: not applicable

Proposed GHG Emissions Reduced (CO2 Equivalents): 0.000

Proposed Funds Leveraged: $0.00

Proposed EECBG Budget: 65,000.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: Pamela Last Name: Rambo-Estill Email: pamela.rambo-estill@arlingtontx.gov

Metric Activity: Transportation If Other:

Project Summary: *(limit summary to space provided)*

The City of Arlington, Texas with a population of 371,038 population falls under a non-attainment area for carbon monoxide, ozone, and particulate matter. There are several designated hot spots due to the high amount of emissions generated from fuel sources including idle emissions. This increases the need for maximum fuel efficiency in all vehicle operations.

The City of Arlington, Texas is including in its application an idle reduction technology project consistent with the EECBG's Development and Implementation of Transportation programs and other consistent activities. The City of Arlington will be utilizing 16 idle reduction technology units for city vehicle. As one of largest sources for idle emissions, the City of Arlington is revolutionizing its fleet (Police, Fire, Water, Public Works, Parks & Rec and Code Enforcement) to include maximum efficiency.

This idle reduction technology contains a dry, non hazmat, solid state cell that is 98% recyclable. The anti-idling units will be maximizing resources available for the City of Arlington services for public safety services by displacing up to 48,000 gallons of gasoline, saving up to an estimated $135,840 on fuel costs, reducing almost 1.104 million pounds of Carbon Dioxide emissions, and over 1.68 million wear and tear miles reduced over the three year life of the project.

The City of Arlington anti-idling project will not only reduce millions of pounds of emissions over the life of the project, but will free up hundreds of thousands of dollars over its project life to be used for other essential City services. The region's non-attainment location only expedites the need for this project. This anti-idling project is consistent with the goals of American Recovery and Reinvestment Act (ARRA) funds and the goals of the U. S. Department of Energy (DOE) by maximizing efficiency in city vehicles, by displacing gallons of gasoline and reducing emissions.

DOE desired outcomes from this activity include:
-accelerated deployment of market-ready distributed renewable energy technologies;
-improved air quality and related environmental and health indicators associated with the reduction of fossil-fuel emissions;
-increased energy-efficiency, reduced energy consumption and reduced energy cost through efficiency improvements in the building, transportation and other appropriate sectors;

Proposed number of jobs created, energy savings and emissions reductions reported on the top of this sheet reflect the results of using the DOE EECBG Estimated Expected Benefits Calculator.

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EECBG Activity Worksheet

Grantee: CITY OF ARLINGTON, TX Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: Commercial Sustainability Outreach Program

Activity: 6. Buildings and Facilities If Other:

Sector: All Sectors If Other:

Proposed Number of Jobs Created: 3.00 Proposed Number of Jobs Retained: 1.00

Proposed Energy Saved and/or Renewable Energy Generated: not applicable

Proposed GHG Emissions Reduced (CO2 Equivalents): 0.000

Proposed Funds Leveraged: $0.00

Proposed EECBG Budget: 250,500.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: Tim Last Name: Yatko Email: tim.yatko@arlingtontx.gov

Metric Activity: Workshops, Training, and Education If Other: GHG reduction, Efficiency

Project Summary: *(limit summary to space provided)*

DOE Stimulus money will be used to fund a full-time position to oversee the expansion of Arlington's commercial recycling program, the Green Team. The commercial recycling coordinator targets and educates the business community about the benefits of commercial recycling and waste reduction while at the same time helping businesses set up recycling programs for employees. With the help of this stimulus grant the program's scope would be expanded to include the promotion and tracking of commercial energy and water conservation as well as transportation efficiency.

- Funding will be used to retain one position over a three year period
- Position promotes and educates businesses on energy efficiency, material conservation

Expanding an Existing Program: The Green Team was launched in early 2008 and designed to promote recycling and solid waste reduction. The program's membership includes commercial properties, industrial and manufacturing, multi-family housing, and institutions such as the school district and city buildings. Expanding the program will retain current members (95 total) and recruit new members.

- Recruiting 80 members per year is an achievable goal
- All current members are long term committed to the program

Focus: The business community is a significant consumer of resources and contributor of green house gases (GHG). Focusing on this segment of the Arlington community would significantly reduce GHG emissions, carbon footprint, and would benefit the community's overall environmental health. According to the City's carbon footprint analysis and information received from Arlington's Water & Utilities Department, the commercial, industrial, institutional sectors of Arlington consume 26% of the energy and 44% of the potable water. Educating business leaders, property managers, and building tenants about the benefits of energy and water conservation could go a long way towards reducing the emissions and environmental impact of businesses. Transportation accounts for the largest portion of the community's footprint both in terms of energy and GHG emissions. And while this cannot be attributed to the business community alone, there is still the potential for working with business to promote alternative commuting strategies for employees of Arlington businesses.

Implementation: To encourage businesses to take part in voluntary energy, water, and transportation initiatives, the program would work on a tiered system to offer businesses different levels of participation, but also recognition, and together this would help foster a sense of competition amongst participants, driving them to achieve the higher tiers. The Green Team program currently employs various social marketing techniques to recruit new members and gain lasting commitment from those companies that join. To take the program to this tiered stage and incorporate energy, water, and transportation initiatives, the program would use the Chicago Green Office program as a template.

- While it would be nice to have 100% of the members in the highest tier, 25% is more likely
- Energy audits and efficiency efforts can be written in as a requirement for the base tier so that all joining would meet a certain minimum criteria for energy efficiency (e.g. all members will perform an energy audit in the three years prior to, or within six months of joining the program)

Metrics: The commercial recycling coordinator position is currently in charge of tracking recycling and waste reduction for the Green Team program, but with the expansion of the program, the coordinator would then track and report on the energy, water, and GHG reductions of those businesses participating in the program.

The funding will cover the salary of one current employee, listed above as job retained. Proposed number of jobs created, energy savings and emissions reductions reported on this sheet were the results of using the DOE EECBG Estimated Expected Benefits Calculator. The City does not anticipate hiring an additional three people to operate this program.

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EECBG Activity Worksheet

Grantee: City of Arlington Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: City Facility Services Building EE Project

Activity: 5. Energy Efficiency Retrofits If Other:

Sector: Public If Other:

Proposed Number of Jobs Created: 2.00 Proposed Number of Jobs Retained: 0.00

Proposed Energy Saved and/or Renewable Energy Generated: 415,518 kWh

Proposed GHG Emissions Reduced (CO2 Equivalents): 215.000

Proposed Funds Leveraged: $0.00

Proposed EECBG Budget: 208,100.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: Alf Last Name: Bumgardner Email: alf.bumgardner@arlingtontx.gov

Metric Activity: Building Retrofits If Other:

Project Summary: *(limit summary to space provided)*

This project consists of the replacement of existing heating, ventilation and air conditioning (HVAC) systems with new energy efficient HVAC equipment. Existing duct-work systems that have insufficient insulation and numerous penetrations will be replaced with new insulated duct-work with sealed joints to eliminate air leaks that exist in the current system. The building envelope will be renovated, and perimeter penetrations in the existing perimeter walls and roof will be sealed to eliminate existing air leaks in the building. The building square footage is 21,000 sf. The area we are renovating is 13,233 sf.

199 existing light fixtures will be replaced with new energy efficient fixtures. The existing T-12 fluorescent lamped light fixtures will be replaced with energy efficient T-8 light fixtures with lamp, with sensor controls and dual switching to save energy by cutting off fixtures in non-occupied rooms.

R-19 Batt insulation will be installed above office ceiling spaces to improve energy efficiency.

Expected energy savings from replacement of the HVAC systems, and duct-work will be approximately twenty percent (20%). Energy savings expected from sealing the building envelope is five percent (5%). Replacement of the T-12 fluorescent light fixtures with T-8 fluorescent light fixtures will be five percent (5%). Total anticipated energy savings on this renovation project will be 30%.

The existing 10 air condition units are 10 to 25 years old with a SEER rating of 10 or less:
(5) 7.5 tons
(2) 5 tons
(1) 3 tons
(2) existing to remain

The new 12 units are:
(2)7.5 tons
(2) 5 tons
(1) 4 tons
(2) 3.5 tons
(3) 3 tons
(2) 2 tons

Existing mechanical systems and related duct work will remain in the warehouse, an existing Library area, and a raised floor small computer room that is not part of the renovation. The mechanical units that will be replaced are fifteen years old and will be replaced with new equipment that will have SEER ratings that vary from 13.25 to 14.5.

DOE desired outcomes from this project include:

-New jobs and increased productivity to spur economic growth and community development
-improved air quality and related environmental and health indicators associated with the reduction of fossil fuel emissions
-Increased energy-efficiency, reduced energy consumption, and reduced energy cost through efficiency improvements in existing buildings and facilities

Proposed number of jobs created, energy savings and emissions reductions reported on this sheet were developed using the DOE EECBG Estimated Expected Benefits Calculator.

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REVISED

EECBG Activity Worksheet

Grantee: City of Arlington Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: City Tower EE Project

Activity: 5. Energy Efficiency Retrofits If Other:

Sector: Public If Other:

Proposed Number of Jobs Created: 10.00 Proposed Number of Jobs Retained: 0.00

Proposed Energy Saved and/or Renewable Energy Generated: 1,884,541 kWh

Proposed GHG Emissions Reduced (CO2 Equivalents): 975.000

Proposed Funds Leveraged: $0.00

Proposed EECBG Budget: 943,817.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: Alf Last Name: Bumgardner Email: alf.bumgardner.arlingtontx.gov

Metric Activity: Building Retrofits If Other:

Project Summary: *(limit summary to space provided)*

This project consists of the installation of insulated furred walls at the interior face of the perimeter of an eight story office building. The existing building has a tinted glass and thin spandrel panel curtain wall system that covers the entire exterior of the facility. The furred out insulated wall system will cover approximately 50% of the existing exposed glass area. The wall system will be constructed with metal studs and a gypsum board interior surface to match the building interior. The exterior face of the furred wall will have a dark vinyl insulation pad that will not be visible from the exterior of the building, and will be backed up with R-11 batt insulation within the metal stud system. A vented base board system will allow air to flow from the conditioned office spaces up through an air space between the existing curtain wall system and the new furred out wall. The air space will open into the existing above ceiling non-ducted return air space. The air space in the furred wall system will provide ventilation within the wall system to eliminate the potential for condensation to form in the concealed area.

In addition a new make up air system will be added to pressurize the building, and provide fresh air that does not currently exist in this building. Pressurizing the building will reduce air leaks at the building perimeter, while improving the air quality of the building environment.

The glass system will be blocked off in the majority of perimeter office spaces, however, each office will be provided with 1/3 to 1/2 of the existing glass to maintain exterior views and maintain daylighting of the office areas.

The anticipated energy savings of the added make up air system, and the furred wall system will be sixteen (16%). In addition, the CO2 emissions will be reduced by 16.6%.

This project will reduce the glass exposure by 50%. (The existing building glass is a single pane glass.) The building is rectangular in shape and is oriented to the north. The first component of heat gain through glass is direct radiation from the sun, which results in a heat gain to the conditioned space when the exposed window is in the direct rays of the sun. The second component of the heat gain is diffused radiation which occurs even when the window is not facing the sun. So the total heat gain is a combination of transmitted heat plus about 40% of the heat that is absorbed in the glass. This project will provide an insulated wall panel that reduces the amount of glass exposed to the space reducing the transmitted portion of the total heat gain of the windows. Thus reducing the window exposure will reduce the transmitted portion of the heat gain and sub sequentially reduce the cooling energy. As the building HVAC system is a variable air volume system utilizing VAV boxes that use a combination of return air and heating coils to provide morning warm up, the design of the new wall will allow the heat absorbed into the glass to still be a factor in providing energy for heating in the winter time.

The addition of make-up air handling unit is to correct the building pressurization. Currently the building is drawing in untreated outside air into the first floor through open doors. The existing window system is also leaking air into the building through weep holes in the window frames on the upper floors of the building. This results in building air quality problems, wasted energy and employee dissatisfaction and extreme comfort issues on the first floor. The best alternative to correct the building pressure issue will involve utilizing an HVAC unit that can pressurize and pre-treat the incoming fresh air by adding some cooling in the summer time and de-humidify the air. Additional building controls will be required to control the fresh air to each mechanical room. The added increase in energy consumption calculated is at 1,500 Kwh per month. This project will take the utility bills from this past winter December 2008 through February 2009 and track that against the actual energy being consumed by the new make-up air unit to document the winter

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REVISED

EECBG Activity Worksheet

Grantee: City of Arlington Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: City Tower EE Project

Activity: 5. Energy Efficiency Retrofits If Other:

Sector: Public If Other:

Proposed Number of Jobs Created: 10.00 Proposed Number of Jobs Retained: 0.00

Proposed Energy Saved and/or Renewable Energy Generated: 1,884,541 kWh

Proposed GHG Emissions Reduced (CO2 Equivalents): 975.000

Proposed Funds Leveraged: $0.00

Proposed EECBG Budget: 943,817.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: Alf Last Name: Bumgardner Email: alf.bumgardner.arlingtontx.gov

Metric Activity: Building Retrofits If Other:

Project Summary: *(limit summary to space provided)*

CONTINUATION OF CITY TOWER EE PROJECT

time savings. In pressurizing the building, the current plan will utilize energy recovery units as part of the make up air system which will aid in improving the energy required to heat and cool the building. Again with the existing building DDC system we shall be able to accurately track the consumption and compare it to past utility data to verify the savings produced by this project.

DOE desired outcomes from this project include:

-New jobs and increased productivity to spur economic growth and community development
-improved air quality and related environmental and health indicators associated with the reduction of fossil fuel emissions
-Increased energy-efficiency, reduced energy consumption, and reduced energy cost through efficiency improvements in existing buildings and facilities

Proposed number of jobs created, energy savings and emissions reductions reported on this sheet were developed using the DOE EECBG Estimated Expected Benefits Calculator.

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REVISED

EECBG Activity Worksheet

Grantee: City of Arlington Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: Internal Facilities Lighting Upgrades

Activity: 5. Energy Efficiency Retrofits If Other:

Sector: Public If Other:

Proposed Number of Jobs Created: 3.00 Proposed Number of Jobs Retained: 0.00

Proposed Energy Saved and/or Renewable Energy Generated: 499,181 kWh

Proposed GHG Emissions Reduced (CO2 Equivalents): 258.000

Proposed Funds Leveraged: $17,646.00

Proposed EECBG Budget: 250,000.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: Butch Last Name: Bonine Email: butch.bonine@arlingtontx.gov

Metric Activity: Building Retrofits If Other:

Project Summary: *(limit summary to space provided)*

This project will involve the replacement of fluorescent lamps and ballasts from conventional F40T12 type to more energy efficient T8 lamps in seven city buildings. In addition, lighting fixtures will be replaced in the gymnasium of one of the seven buildings. This gymnasium now is illuminated with high intensity discharge lighting and the result of converting to fluorescent lamps will result in reduced energy consumption and overall lighting improvement.

East Police Station - replace 711 bulbs, 273 ballasts and install 23 occupancy sensors
Southside Water Service Center - replace 1,171 bulbs, 450 ballasts and install 31 occupancy sensors
Northeast Branch Library - replace 515 bulbs, 163 ballasts
City Tower - replace 2,181 bulbs, 1,030 ballasts and install 79 occupancy sensors
Cliff Nelson Recreation Center - replace 544 bulbs, 192 ballasts
Ott Cribbs Public Safety Building - replace 3,334 bulbs, 1,465 ballasts and install 75 occupancy sensors
North Water Service Center - replace 641 bulbs, 262 ballasts and install 24 occupancy sensors

In June of 2009, when we began to gather data for this project, the utility provider's representatinve, ClearResult, indicated that upon completion of the project the utility provider would provide the city with an incentive check in the amount of $17,646. We have heard that this amount may increase, since the original savings estimates were based on a general lamp replacement estimate and we now have a complete count of lamps and ballasts that exceed the original estimate.

DOE desired outcomes from this project include:

-New jobs and increased productivity to spur economic growth and community development
-improved air quality and related environmental and health indicators associated with the reduction of fossil fuel emissions
-Increased energy-efficiency, reduced energy consumption, and reduced energy cost through efficiency improvements in existing buildings and facilities

Proposed number of jobs created, energy savings and emissions reductions reported on this sheet were developed using the DOE EECBG Estimated Expected Benefits Calculator.

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Revised

EECBG Activity Worksheet

Grantee: City of Arlington Date: 09/17/2009

DUNS #: 68378231 Program Contact Email: pamela.rambo-estill@arlingtontx.gov

Program Contact First Name: Pamela Last Name: Rambo-Estill

Project Title: Energy Code Enhancement Study

Activity: 8. Codes and Inspections If Other:

Sector: All Sectors If Other:

Proposed Number of Jobs Created: 2.00 Proposed Number of Jobs Retained: 0.00

Proposed Energy Saved and/or Renewable Energy Generated: 27,447,913 kWh

Proposed GHG Emissions Reduced (CO2 Equivalents): 14,202.000

Proposed Funds Leveraged: $0.00

Proposed EECBG Budget: 200,000.00

Projected Costs Within Budget: Administration: $0.00 Revolving Loans: $0.00 Subgrants: $0.00

Project Contact First Name: Ed Last Name: Dryden Email: ed.dryden@arlingtontx.gov

Metric Activity: Building Codes and Standards If Other:

Project Summary: *(limit summary to space provided)*

The City of Arlington's Community Development and Planning Department will coordinate a study of the economic and environmental impacts from potential energy code enhancements for residential and commercial development and existing building inventory. An outside consultant will help facilitate a task force comprised of various stakeholders focused on formulating Arlington's options and recommendations for enhancing the current energy code; increasing its stringency to improve environmental results through reduced emissions.

The City of Arlington's current adopted energy code is the 2003 Edition of the International Energy Conservation Code (IECC) and the energy provisions of the 2003 Edition of the International Residential Code (IRC). Both the IECC and the IRC have local regional amendments promulgated by the North Central Texas Council of Governments and ratified by Energy Systems Laboratory (ESL) of the Texas A & M University System as "not less stringent than the 2001 Editions of the IECC and IRC." The ESL ratification is required by State statute before a municipality can adopt subsequent editions of the IECC and IRC beyond the 2001 editions.

The City of Arlington proposes to adopt the 2009 Editions of the IECC and the IRC in 2010. As part of this adoption process, this study proposes to evaluate and recommend "above code" approaches for both new construction and the existing building inventories. The 2009 Editions of the IECC and the IRC have been found to be from about 8% to about 13% better than the current adopted code in an analysis performed by ESL for Arlington's climate zone. Additional "above code" approaches will increase that percentage.

Examples of "above code" might include consideration of the following:
Requirement of "cool roofs" for low slope roofs at certain threshold for both new and replacement roofs (commercial only); Prohibition of the installation of attic access stairs (horizontal) in the envelope (residential and commercial); Insulation of all hot water pipes (non circulating included) within the slab (residential and commercial);Prohibit/restrict the use of flex duct (residential and commercial); Require radiant barriers for construction where insulation is installed on top of rafters (residential and commercial); Require A/C comfort ducts to be located inside the thermal envelope (no in attics or on roofs) (residential and commercial); Prohibit electric resistant heating unless in conjunction with heat pump systems (residential and commercial); Restrict/minimize the use of incandescent bulbs/fixtures for certain new and replacement light fixtures (residential only); Increase minimum efficiency ratings for new and replacement A/C equipment from 13 to 14 (residential and commercial); Require outside air systems to be designed per ASHRAE 62 for threshold buildings (commercial only); Prohibit standing pilots for DHW heaters and furnaces (residential and commercial); Require some level of "Advanced Framing" for wood frame buildings (residential and commercial); Require duct performance testing with full mechanical system replacement (residential and commercial); Require minimum retrofit levels of attic insulation in conjunction with additions (residential and commercial).

DOE desired outcomes from this project include:
-New jobs and increased productivity to spur economic growth and community development
-improved air quality and related environmental and health indicators associated with the reduction of fossil fuel emissions
-Increased energy-efficiency, reduced energy consumption, and reduced energy cost through efficiency improvements in the building sector

Proposed number of jobs created, energy savings and emissions reductions reported on this sheet were developed using the DOE EECBG Estimated Expected Benefits Calculator.

*If you are proposing more than one activity, save this file as many times as needed with successive page numbers. For example: "OH-CITY-Columbus-Project Activity **page 1**.pdf," "OH-CITY-Columbus-Project Activity **page 2**.pdf," and continue as needed.*

Revised